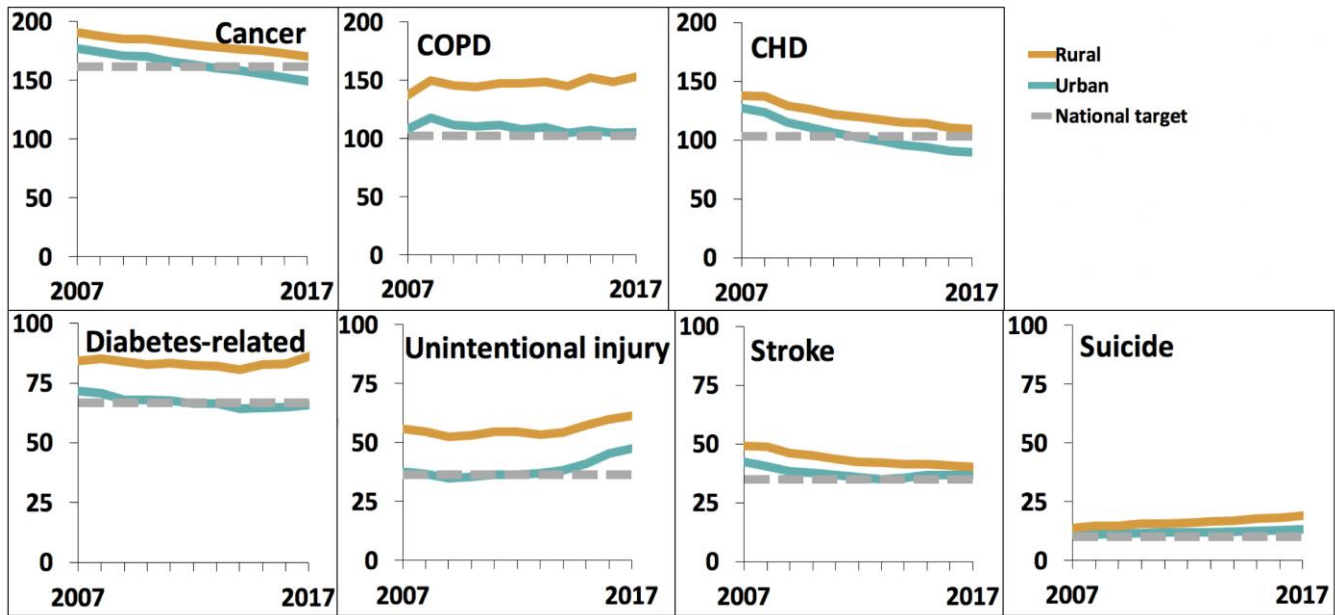


Appendix

Appendix Exhibit A1. Age-adjusted death rates (per 100,000 population) from 2007 to 2017 for the major causes of death tracked by Healthy People 2020, by rurality

SOURCE Authors' analysis of age-adjusted death rates for 2007–17 from the National Vital Statistics System, National Center for Health Statistics.

NOTES The ranges of the Y axes are different in the top and bottom rows of the panels. Appendix exhibit A2 contains the data for the age-adjusted death rates. CHD is coronary heart disease. COPD is chronic obstructive pulmonary disease among people ages forty-five and older.



Appendix Exhibit A2. Age-adjusted death rates (per 100,000 population) from 2007 to 2017 for the major causes of death tracked by Healthy People 2020, by rurality

SOURCE Authors' analysis of age-adjusted death rates for 2007–17 from the National Vital Statistics System, National Center for Health Statistics.

NOTES CHD is coronary heart disease. COPD is chronic obstructive pulmonary disease among people ages forty-five and older.

Death rates (age-adjusted, per 100,000 population)						
Year	Cancer (National target: 161.4)		COPD (National target: 102.6)		CHD (National target: 103.4)	
	Urban	Rural	Urban	Rural	Urban	Rural
2007	176.9	190.5	108.7	137.7	127.4	138.2
2008	174.0	187.7	117.6	150.2	123.8	137.4
2009	171.1	185.2	111.7	145.7	115.3	129.4
2010	170.2	185.2	110.6	144.3	111.1	126.1
2011	166.2	182.6	111.3	147.1	106.6	122.1
2012	163.7	180.2	108.0	147.2	102.6	119.8
2013	160.2	178.4	109.6	148.7	99.7	117.7
2014	158.3	176.2	104.7	145.2	95.7	115.1
2015	155.2	175.4	107.4	152.6	93.9	114.6
2016	152.6	172.5	104.9	148.6	91.2	110.9
2017	149.1	170.1	105.4	152.9	89.7	109.4

Death rates (age-adjusted, per 100,000 population)								
Year	Diabetes- related (National target: 66.6)		Unintentional injury (National target: 36.4)		Stroke (National target: 34.8)		Suicide (National target: 10.2)	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
2007	71.8	84.3	37.6	55.8	42.3	49.2	10.8	13.8
2008	70.6	85.2	36.5	54.4	40.6	48.7	11.1	14.6
2009	68.0	83.9	34.9	52.5	38.3	45.9	11.2	14.8
2010	68.1	82.8	35.3	53.0	37.8	45.2	11.5	15.5
2011	67.6	83.3	36.5	54.4	36.7	43.7	11.8	15.8
2012	66.5	82.3	36.4	54.6	35.7	42.4	12.0	16.1
2013	66.5	82.2	37.0	53.4	35.0	41.9	11.9	16.7
2014	64.4	80.6	38.2	54.3	35.4	41.5	12.4	16.8
2015	64.6	82.8	40.9	57.2	36.8	41.6	12.6	17.7
2016	64.8	83.0	45.4	59.7	36.6	41.0	12.7	18.0
2017	66.0	86.1	47.5	61.2	37.1	40.3	13.2	19.1

Appendix Exhibit A3. Average annual percent changes from 2007 to 2017 in death rates for the major causes of death tracked by Healthy People 2020, by rurality

SOURCE Authors' analysis of age-adjusted death rates for 2007–17 from the National Vital Statistics System, National Center for Health Statistics.

NOTES Negative slope estimates indicated decreasing death rates, while positive slope estimates indicated increasing death rates. CHD is coronary heart disease. COPD is chronic obstructive pulmonary disease among people ages forty-five and older.

Cause of death	Average annual percent change (95% confidence intervals)	
	Urban	Rural
CHD	-3.6 (-3.9, -3.3)	-2.4 (-2.6, -2.1)
Stroke	-1.2 (-1.9, -0.5)	-2.0 (-2.4, -1.7)
Cancer	-1.7 (-1.8, -1.6)	-1.1 (-1.1, -1.0)
Diabetes-related	-0.9 (-1.2, -0.7)	-0.1 (-0.4, 0.2)
COPD	-0.8 (-1.2, -0.4)	0.6 (0.2, 0.9)
Unintentional injury	2.6 (1.5, 3.7)	1.0 (0.4, 1.7)
Suicide	1.9 (1.7, 2.0)	2.9 (2.7, 3.2)

Appendix Exhibit A4. Ratios of rural annual death rates to urban annual death rates for the major causes of death tracked by Healthy People 2020, 2007–17

SOURCE Authors' analysis of age-adjusted death rates for 2007–17 from the National Vital Statistics System, National Center for Health Statistics.

NOTES The ratios were calculated as the rural annual death rate for a given year divided by the urban rate for the same year. CHD is coronary heart disease. COPD is chronic obstructive pulmonary disease among people ages forty-five and older.

Ratios of rural to urban death rates							
Year	COPD	Suicide	Diabetes-related	Unintentional injury	CHD	Cancer	Stroke
2007	1.27	1.28	1.17	1.48	1.08	1.08	1.16
2008	1.28	1.32	1.21	1.49	1.11	1.08	1.20
2009	1.30	1.32	1.23	1.50	1.12	1.08	1.20
2010	1.31	1.35	1.22	1.50	1.14	1.09	1.19
2011	1.32	1.34	1.23	1.49	1.15	1.10	1.19
2012	1.36	1.34	1.24	1.50	1.17	1.10	1.19
2013	1.36	1.39	1.24	1.44	1.18	1.11	1.20
2014	1.39	1.36	1.25	1.42	1.20	1.11	1.17
2015	1.42	1.41	1.28	1.40	1.22	1.13	1.13
2016	1.42	1.41	1.28	1.32	1.22	1.13	1.12
2017	1.45	1.45	1.31	1.29	1.22	1.14	1.09

Appendix Exhibit A5. Average annual percent changes from 2007 to 2017 in death rates in rural areas for the major causes of death tracked by Healthy People 2020, by census region

SOURCE Authors' analysis of age-adjusted death rates for 2007–17 from the National Vital Statistics System, National Center for Health Statistics.

NOTES Negative slope estimates indicated decreasing death rates, while positive slope estimates indicated increasing death rates. CHD is coronary heart disease. COPD is chronic obstructive pulmonary disease among people ages forty-five and older.

Cause of death	Region	Average annual percent change (95% confidence interval)
CHD	Northeast	-2.7 (-3.0, -2.4)
	Midwest	-2.3 (-2.5, -2.0)
	South	-2.5 (-2.8, -2.1)
	West	-2.1 (-2.6, -1.7)
Stroke	Northeast	-2.2 (-2.6, -1.8)
	Midwest	-2.1 (-2.5, -1.8)
	South	-1.9 (-2.4, -1.5)
	West	-2.0 (-2.5, -1.5)
Cancer	Northeast	-1.1 (-1.3, -0.9)
	Midwest	-1.0 (-1.1, -0.9)
	South	-1.1 (-1.1, -1.0)
	West	-1.4 (-1.6, -1.2)
Diabetes-related	Northeast	-1.6 (-2.0, -1.3)
	Midwest	-0.1 (-0.5, 0.4)
	South	0.3 (-0.1, 0.7)
	West	-0.1 (-0.6, 0.4)
COPD	Northeast	-0.7 (-1.3, -0.2)
	Midwest	0.8 (0.3, 1.3)
	South	1.0 (0.7, 1.4)
	West	-0.7 (-1.1, -0.4)
Unintentional injury	Northeast	3.3 (2.3, 4.4)
	Midwest	2.0 (1.3, 2.6)
	South	0.2 (-0.4, 0.8)
	West	0.4 (-0.2, 0.9)
Suicide	Northeast	3.2 (2.7, 3.8)
	Midwest	3.4 (3.0, 3.9)
	South	2.6 (2.2, 3.0)
	West	2.6 (2.3, 2.9)

Appendix Exhibit A6. Age-adjusted death rates (per 100,000 population) from 2007 to 2017 for the major causes of death tracked by Healthy People 2020 , by rurality and race

SOURCE Authors' analysis of age-adjusted death rates for 2007–17 from the National Vital Statistics System, National Center for Health Statistics.

NOTES CHD is coronary heart disease. COPD is chronic obstructive pulmonary disease among people ages forty-five and older.

Cause of death	Race	Death rates (95% confidence intervals)	
		Rural	Urban
CHD	White, non-Hispanic	134.8 (134.3, 135.3)	104.9 (104.7, 105.1)
	Black, non-Hispanic	130.7 (129.5, 131.9)	112.6 (112.1, 113.1)
Stroke	White, non-Hispanic	47.3 (47.0, 47.6)	38.6 (38.5, 38.8)
	Black, non-Hispanic	65.8 (64.9, 66.6)	57.0 (56.6, 57.3)
Cancer	White, non-Hispanic	191.7 (191.2, 192.3)	169.5 (169.2, 169.8)
	Black, non-Hispanic	213.5 (211.9, 215.0)	195.0 (194.3, 195.6)
Diabetes-related	White, non-Hispanic	122.0 (121.5, 122.5)	86.8 (86.6, 87.1)
	Black, non-Hispanic	185.4 (184.0, 186.9)	151.6 (151.0, 152.2)
COPD	White, non-Hispanic	178.0 (177.1, 179.0)	135.6 (135.2, 136.0)
	Black, non-Hispanic	83.3 (81.6, 84.9)	73.3 (72.5, 74.0)
Unintentional injury	White, non-Hispanic	66.1 (65.7, 66.5)	49.2 (49.1, 49.4)
	Black, non-Hispanic	47.1 (46.4, 47.8)	34.9 (34.6, 35.1)
Suicide	White, non-Hispanic	19.2 (18.9, 19.4)	17.0 (16.9, 17.1)
	Black, non-Hispanic	5.1 (4.9, 5.4)	5.5 (5.4, 5.6)